

IN THE CLAIMS:

Claim 1 (currently amended) An isolated nucleic acid molecule, which encodes a fluorescent or chromo-protein, selected from the group consisting of:

(a) A nucleic acid which encodes a protein comprising the amino acid sequence as shown in SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 20 or 22;

(b) a nucleic acid comprising a nucleotide sequence as shown in SEQ ID NOs: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 or 21;

(c) a nucleic acid that hybridizes under stringent conditions to the nucleic acid of (a) or (b) above;

(d) a nucleic acid that encodes a protein that has at least about 75% sequence identity to the amino acid sequence of (a) above;

(e) a nucleic acid that has at least about 70% sequence identity to the nucleotide sequence of (b) above;

(f) a nucleic acid which encodes a protein having at least one amino acid substitution, deletion or insertion in the amino acid sequence as shown in SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 or 22[.];

(g) a derivative or mimetic of the nucleic acid of (a), (b), (c), (d), (e) or (f) above;

(h) a mutant of the nucleic acid of (a), (b), (c), (d), or (e) above;

(i) a nucleic acid which differs from the nucleic acid of (b), (c), (d), (e), (f), (g) or (h) above due to the degeneracy of genetic code; and

(j) a fragment of the nucleic acid of (a) or (b) above encoding a peptide of at least 15

amino acid residues in length.

Claim 2 (original) The nucleic acid molecule of claim 1, wherein said nucleic acid is isolated from an organism from a Class Hydrozoa.

Claim 3 (original) The nucleic acid molecule of claim 1, wherein said nucleic acid is isolated from an organism from a Sub-order Anthomedusae.

Claim 4 (original) The nucleic acid molecule of claim 1, wherein said nucleic acid is isolated from a Genus *Phialidium*.

Claim 5 (original) A vector comprising the nucleic acid molecule according to claim 1.

Claim 6 (currently amended) An expression cassette comprising (a) the nucleic acid molecule according to claim 1; and (b) regulatory elements for the expression of said nucleic acid molecule in ~~the~~ a desired host-cell.

Claim 7 (currently amended) A cell comprising the nucleic acid molecule according to claim 1; ~~the vector according to claim 5, or the expression cassette according to claim 6.~~

Claim 8 (currently amended) A stable cell line comprising the nucleic acid molecule according to claim 1, ~~the vector according to claim 5, or the expression cassette according to claim 6.~~

Claim 9 (currently amended) A transgenic plant comprising the nucleic acid molecule according to claim 1, ~~the vector according to claim 5, or the expression cassette according to claim 6.~~

Claim 10 (currently amended) A transgenic animal comprising the nucleic acid molecule according to claim 1, ~~the vector according to claim 5, or the expression cassette according to claim 6.~~

Claim 11 (original) A method for producing a fluorescent or chromo-protein, said method comprising

- (a) providing a nucleic acid molecule according to claim 1 operably linked to suitable expression regulatory elements
- (b) expressing the fluorescent or chromo-protein from said nucleic acid molecule, and
- (c) isolating the protein substantially free of other proteins.

Claim 12 (original) A nucleic acid molecule comprising a fragment of the nucleic acid molecule according to claim 1, said fragment encoding a peptide of at least 100 amino acids in length.

Claim 13 (original) A nucleic acid molecule having a sequence that is substantially the same as, or identical to a nucleotide sequence of at least 300 residues in length of the nucleic acid molecule according to claim 1.

Claim 14 (currently amended) An isolated fluorescent or chromo-protein selected from the

group consisting of:

(a) a protein comprising the amino acid sequence as shown in SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 or 22;

(b) a protein encoded by the nucleic acid molecule comprising a nucleotide sequence as shown in SEQ ID NOs: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 or 21;

(c) a protein that has at least about 75% sequence identity to the amino acid sequence of (a) or (b) above.

(d) a mutant of the protein of (a), (b) or (c) above;

(e) a protein having at least one amino acid substitution, deletion or insertion in the amino acid sequence as shown in SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 or 22[.];

(f) a derivative of the protein of (a), (b), (c), (d) or (e) above;

(g) a fragment of the protein of (a), (b), (c), (d), (e) or (f) above comprising of at least 15 amino acid residues in length; and

(h) a protein having a sequence that is substantially the same as, or identical to the amino acid sequence of at least 100 residues in length of (a) or (b) above.

Claim 15 (original) A fusion protein comprising the protein according to claim 14.

Claim 16 (original) An antibody specifically binding to the protein according to claim 14.

Claim 17 (currently amended) A kit comprising the nucleic acid according to claim 1, ~~the vector according to claim 5, the expression cassette according to claim 6, the protein according to~~

~~claim 14, the fusion protein according to claim 15, or a means for producing the same.~~

Claim 18 (currently amended) An oligonucleotide probe or primer comprising ~~the~~ a nucleotide sequence capable of hybridizing to ~~the~~ a nucleotide sequence selected from the group consisting of SEQ ID Nos. 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21.

Claim 19 (original) A method for biological molecule, comprising coupling said biological molecule to the protein according to claim 14.

Claim 20 (original) A method for labeling a cell comprising production of the protein according to claim 14 in the cell.

Claim 21 (currently amended) A method for labeling a cell organelle comprising production of the protein according to claim 14 fused to ~~the~~ a suitable subcellular localization signal in the cell.

Claim 22 (currently amended) A method for analyzing a biological molecule, cell or cell organelle comprising detection of fluorescence signal from the protein according to claim 14 ~~or~~ 15.

Claim 23 (original) A method for analyzing a biological molecule, cell or cell organelle comprising expression of the nucleic acid molecule according to claim 1 in a cell.

Claim 24 (currently amended) A method of detecting a biological molecule comprising detection of fluorescence signal from the protein according to claim 14 ~~or 15~~.

Claim 25 (new) A method for analyzing a biological molecule, cell or cell organelle comprising detection of fluorescence signal from the protein according to claim 15.

Claim 26 (new) A method of detecting a biological molecule comprising detection of fluorescence signal from the protein according to claim 15.